

CLAIMS:

1. A low-pressure vapor discharge lamp comprising a radiation-transmitting discharge vessel (1) enclosing, in a gastight manner, a discharge space (3) provided with a gas filling,

5 the gas filling being substantially free of mercury and comprising an indium compound and a buffer gas,

the discharge vessel (1) comprising discharge means (2) for maintaining a gas discharge in the discharge space (3),

the discharge vessel (1) being provided with a luminescent layer (4),

10 the luminescent layer (4) comprising a luminescent material based on a nitridosilicate or on an oxonitridosilicate.

2. A low-pressure vapor discharge lamp as claimed in claim 1, characterized in that the luminescent material comprises rare-earth emitters.

15 3. A low-pressure vapor discharge lamp as claimed in claim 2, characterized in that the luminescent material comprises europium, cerium, or ytterbium emitters.

4. A low-pressure vapor discharge lamp as claimed in claim 1 or 2, characterized in that the luminescent material comprises an oxonitridosilicate comprising aluminum.

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5. A low-pressure vapor discharge lamp as claimed in claim 1 or 2, characterized in that the luminescent layer (4) comprises a luminescent material selected from the group formed by:

$(Sr_{1-x-y-z}Ba_xCa_y)Si_2N_2O_2:Eu_z$, where $0 < x < 0.2$, $0 < y < 0.2$ and $0 < z < 0.1$;

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$Ca_{1-x-y}Sr_xSi_2N_2O_2:Eu_y$, where $0 < x < 0.5$ and $0 < y < 0.1$;

$(Sr_{1-x-y-z}Ca_xBa_y)_2Si_5N_8:Eu_z$, where $0 < x < 1$, $0 < y < 1$ and $0 < z < 0.1$;

$(Sr_{1-x-y-z}Ba_xCa_y)_2Si_{5-a}Al_aN_{8-a}O_a:Eu_z$, where $0 < x < 1$, $0 < y < 1$, $0 < z < 0.1$ and $0 < a < 4$,

and

$(Sr_{1-x-y-z}Ba_xCa_y)Si_2N_2O_2:Yb_z$, where $0 < x < 0.2$, $0 < y < 0.2$ and $0 < z < 0.1$.

6. A low-pressure vapor discharge lamp as claimed in claim 1 or 2, characterized in that the luminescent layer (4) further comprises a luminescent material selected from the group formed by:

5 $Y_3Al_5O_{12}:Ce$;
 $(Y_{1-x}Gd_x)_3(Al_{1-y}Ga_y)_5O_{12}:Ce$, where $0 < x < 1$ and $0 < y < 1$;
 $Sr_2CeO_4:Eu$, $Y_2O_3:Eu,Bi$;
 $(Y,Gd)_2O_3:Eu,Bi$;
 $Y(V,P)O_4:Eu$;

10 $Y(V,P)O_4:Eu,Bi$;
 $(Sr,Mg,Ca)S:Eu$;
 $Y_2O_2S:Eu$;
 $(Ba,Sr)MgAl_{10}O_{17}:Eu,Mn$;
 $ZnS:Cu,Al,Au$; $SrGa_2S_4Eu$;

15 $(Sr,Ba,Ca)(Ga,Al)_2S_4:Eu$;
 $(Y,Gd)BO_3:Ce,Tb$;
 $(Y,Gd)_2O_2S:Tb$;
 $LaOBr:Ce,Tb$;
 $(Ba,Sr)MgAl_{10}O_{17}:Eu$;

20 $(Ba,Sr)_5(PO_4)_3(F,Cl):Eu$;
 $Y_2SiO_5:Ce$;
 $ZnS:Ag$,

and

$La_{0.7}Gd_{0.3}OBr:Ce$.

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7. A low-pressure vapor discharge lamp as claimed in claim 1 or 2, characterized in that the emission from the luminescent layer (4) and the emission from the gas discharge together form white light.

30 8. A low-pressure vapor discharge lamp as claimed in claim 1 or 2, characterized in that the discharge vessel is surrounded by an outer bulb, the outer surface of the discharge vessel being coated with the luminescent layer.

9. A low-pressure vapor discharge lamp as claimed in claim 1 or 2, characterized in that the discharge vessel (1) is surrounded by an outer bulb (6), the outer bulb (6) being coated with the luminescent layer (4).